

SEP 11 2019

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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF VIRGINIA
DANVILLE DIVISION

UNITED STATES OF AMERICA)

v.)

MARCUS JAY DAVIS, et al.,)

Defendants.)

Case No.: 4:18-cr-00011

By: Michael F. Urbanski
Chief United States District Judge

MEMORANDUM OPINION

Defendants challenge the admissibility of forensic toolmark and firearms identification evidence pursuant to Federal Rule of Evidence 702 and the requirements of Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579 (1993). ECF Nos. 570, 577, 581, & 612. Defendants raise these objections in the context of serious charges brought against them by the First Superseding Indictment—specifically, racketeering, murder, attempted murder, assault in aid of racketeering, and various related gun charges (pursuant to the Racketeer Influenced and Corrupt Organizations (“RICO”) Act, 18 U.S.C. § 1962, Violent Crimes in Aid of Racketeering Act (“VICAR”), 18 U.S.C. § 1959, and 18 U.S.C. § 924(c)). ECF No. 207. The government responded to defendant’s motions on August 27, 2019. ECF No. 671. The court conducted a Daubert hearing and heard evidence and argument on September 3 and 4, 2019. ECF Nos. 699 & 704. These issues are now ripe for decision.

For the following reasons, the court **GRANTS in part and DENIES in part** defendants’ motions, ECF Nos. 570, 577, 581, and 612, and will permit the testimony of the proposed experts, subject to the limiting instructions described below. Additionally, the court

GRANTS in part and DENIES in part the government's motion in limine filed on September 6, 2019, the day after the Daubert hearing. ECF No. 713.

I.

This multi-defendant, multi-count RICO prosecution began on June 11, 2018 when a federal grand jury issued two indictments bringing charges against members of the Rollin 60s Crips gang and gang associates on violations of the RICO statute, 18 U.S.C. § 1962, VICAR statute, 18 U.S.C. § 1959, and several other factually related charges. ECF No. 1; ECF No. 207. The government alleges that, in the summer of 2016, members of the Rollin 60s and Milla Bloods collaborated to facilitate criminal activities in the Danville, Virginia area. See ECF No. 207 (describing alleged racketeering conspiracy). This collaboration resulted in: (1) the attempted murders of the “Philly Boys” at North Hills Court on June 15, 2016, resulting in the assault and attempted murder of Armonti Womack and Dwight Harris; (2) the attempted murder of Justion Wilson and murder of Christopher Motley at North Hills Court on August 20, 2016; and (3) the attempted murder of Tyliek Conway on August 24, 2016.

The government proposes three experts in the field of firearms and toolmark identification: Wendy Gibson (a forensic scientist with the western lab of the Virginia Department of Forensic Science's (“DFS”) Firearm and Toolmark section), Courtney Etzelmiller (a senior forensic scientist with the eastern lab of the Virginia Department of Forensic Science's Firearm and Toolmark section), and Scott McVeigh (a Senior Firearm and Toolmark Examiner with the Prince George's County, Maryland, Police Department Firearm Examination Unit). Gibson proposes to testify, based on DFS reports and supporting documentation, about the characteristics of spent shell casings found at numerous crime

scenes and render an opinion that certain bullets and casings found at one crime scene can be associated with bullets, spent shell casings, or firearms recovered from other crime scenes. Etzelmiller proposes to testify, based on DFS reports and documentation, about the cartridge case found at the scene of the murder of Christopher Motley and that the casing found exhibited markings that “made it suitable for identification with the firearm from which it was fired.” McVeigh proposes to testify, based on reports and his examination, that a recovered cartridge from the Motley murder was fired from a .40 caliber Smith & Wesson pistol recovered in Hyattsville, Maryland by the Maryland National Capital Park Police.

Defendants raise objections to both the reports and qualifications of the government’s proposed experts and the overall reliability of the field of firearm and toolmark identification. First, defendants point out that McVeigh is “a police officer with a Criminal Justice certificate from a two year college—not a trained scientist or engineer,” and that Etzelmiller has a Masters Degree in forensic science with an area of emphasis in psychology, rather than a degree in materials engineering, metallurgical engineering, materials science, “or any other academic discipline which deals with the actual science of what happens to metal when it comes into contact with other metal.” ECF No. 570, at 3–4. Second, defendants object to the reports offered by McVeigh, Gibson, and Etzelmiller, arguing that none of them provide sufficient information as to the bases and reasons they relied upon in reaching their conclusions. Defendants contend that more is required to satisfy Federal Rule of Criminal Procedure 16.

Finally, and perhaps most significantly, defendants object to the type of testimony offered, arguing that “firearm identification evidence is scientifically bankrupt, completely

subjective, and almost always favors law enforcement.” ECF No. 582, at 5. In support, they cite three reports, the first published in 2008 by the National Research Council (“NRC”), the second in 2009 again by the NRC, and the third in 2016 by the President’s Council of Advisors on Science and Technology (“PCAST”), all of which point out weaknesses in the field questioning the reliability of such evidence. Defendants argue that firearm identification is “based primarily on a visual inspection of patterns of toolmarks and is largely a subjective determination based on experience and expertise.” United States v. Monteiro, 407 F. Supp. 2d 351, 355 (D. Mass. 2006). They contend that attempts to standardize the field and establish standard practices have not yet been generally accepted. ECF No. 582, at 6. Defendants argue that recent caselaw indicates that federal courts are no longer as accepting of firearm identification testimony as they once were, and that the granting of their motions would be the logical next step in the current progression of the law. Defendants ask for the exclusion of all evidence of this type from trial. In lieu of this, defendants request a limiting instruction preventing the witnesses from expressing a specific degree of certainty in their conclusions.

The government responds that no court has ever excluded toolmark examination expert testimony under Daubert or any other standard, and that there is no scientific or legal basis to exclude the evidence the government intends to offer. ECF No. 673, at 20. See United States v. Santiago, 199 F. Supp. 2d 101, 111 (S.D.N.Y. 2002) (“The Court has not found a single case . . . that would suggest that the entire field of ballistics identification is unreliable.”). The government asserts that all three objected-to experts are extremely qualified through training and experience. Further, the field of forensic firearm and toolmark identification “continues to undergo testing in the form of (1) technical research; (2) validation studies; and

(3) proficiency testing.” ECF No. 673, at 10. The government concedes that courts have found the maintenance of standards and controls to be the weakest of the Daubert factors in firearm identification. Monteiro, 407 F. Supp. 2d at 371-72; United States v. Green, 405 F. Supp. 2d 104, 114 (D. Mass. 2005); United States v. Glynn, 578 F. Supp. 2d 567, 572 (S.D.N.Y. 2008). However, the government posits that “nothing in hundreds of peer-reviewed journal articles to date has invalidated the foundational premise that a trained examiner can reliably identify a cartridge case/bullet to a particular gun or a case to another case.” ECF No. 673, at 29.

II.

Federal Rule of Evidence 702 states that “[a] witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if” the following four criteria are established:

the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702.

The Supreme Court of the United States has held that Rule 702 “clearly contemplates some degree of regulation of the subjects and theories about which an expert may testify.” Daubert, 509 U.S. at 589. Accordingly, the Supreme Court in Daubert expounded upon the relevancy and reliability requirements of Rule 702. First, to establish “a standard of evidentiary reliability,” an expert must testify about scientific knowledge.” Id. at 589–90. This means that the testimony must be “grounded in the methods and procedures of science” and must consist of “more than subjective belief or unsupported speculation.” Id. at 590. Second, in order to

ensure relevancy, the expert's evidence or testimony must “assist the trier of fact to understand the evidence or to determine a fact in issue.” Id. at 591 (quoting Fed. R. Evid. 702).

This “‘helpfulness’ standard requires a valid scientific connection to the pertinent inquiry as a precondition of admissibility.” Daubert, 509 U.S. at 591–92. When faced with potential expert testimony, then, the trial judge must make a “preliminary assessment of whether the reasoning or methodology can be applied to the facts in issue.” Id. at 592–93. The proponent of the evidence bears the burden of proof by a preponderance of the evidence. Daubert, 509 U.S. at 593 n. 10.

III.

Before the court is an evidentiary issue of increasing interest and controversy. The questions posed by these motions have been addressed by several courts, resulting in a heightened apprehension in the scientific reliability and admission of this evidence. See Green, 405 F. Supp. 2d at 109 (“This reliance on long-standing use of ballistics evidence in the courts is troubling.”). The series of reports issued on this subject reflects the ever-growing number of members of the legal and scientific communities who recognize problematic aspects of this discipline. Any discussion of this subject, however, must be based in a foundational knowledge of the specific technical variety that lawyers generally lack—specifically, what firearm and toolmark identification is, how these examiners conduct their analyses, and upon what their conclusions are based.

A.

Firearm identification has been a forensic discipline since the 1920s. See Hamby, J., The History of Firearm and Toolmark Identification, THE ASSOCIATION OF FIREARM AND TOOLMARK EXAMINERS (“AFTE”) Journal, Vol. 31(3), Summer 1999, at 266-84. Toolmark examiners are trained to examine the marks left by tools on surfaces to “match” a toolmark to the tool that made the mark. Firearms are a subset of tools that leave marks; unlike most other tools, they primarily impart marks on bullets and cartridge cases. See Foundational Overview of Firearm/Toolmark Identification, ASSOCIATION OF FIREARM AND TOOL MARK EXAMINERS: SWGGUN ADMISSIBILITY RESOURCE KIT (2019), AFTE.org/resources/swggun-ark. Firearm identification deals with toolmarks that bullets, cartridge cases, and shotshell components acquire by being fired and that unfired cartridge cases and shotshells acquire by being worked through the action of a firearm. Adina Schwartz, A Systematic Challenge to the Reliability and Admissibility of Firearms and Toolmark Identification, COLUM. SCI. & TECH. L. REV. 2 (2005), at 3 –5.

Firearm identification is based on two propositions—that toolmarks imparted by different tools will rarely be similar enough to lead a qualified examiner to conclude the marks were made by the same tool, and that most manufacturing processes involve the transfer of rapidly changing or random marks onto work pieces such as barrel bores, breech faces, firing pins, screwdriver blades, and the working surfaces of other common tools.¹ See Stephen G. Bunch et al., Is a Match Really a Match? A Primer on the Procedures and Validity of Firearm and Toolmark Identification, FORENSIC SCIENCE COMMUNICATIONS, Vol. 11(3), July 2009. Examiners are trained to recognize and evaluate the following characteristics: (1) class

¹ The court makes no comment and passes no judgment on the validity of these propositions.

characteristics (shared by all tools of a certain type); (2) subclass characteristics (features that occur during the manufacturing process, resulting in differences between tools of the same type but manufactured in different “batches”); and (3) individual characteristics (held to be unique to a single tool). Qualified examiners use a method known as “pattern matching” to determine whether two toolmarks are similar enough to conclude that two bullets or cartridge cases came from the same firearm. Committee for the Advancement of the Science of Firearm & Toolmark Identification, Theory of Identification as it Relates to Toolmarks: Revised, AFTE JOURNAL, Vol. 43(4), Fall 2011, p. 287. Examiners can come to four possible conclusions: (1) identification; (2) inconclusive; (3) elimination; and (4) unsuitable for comparison.

In 2008, the NRC observed in its report that studies of the uniqueness, reproducibility, and permanence of individual characteristics of toolmarks are “limited in scale and have been conducted by firearms examiners (and examiners in training) in state and local law enforcement laboratories as adjuncts to their regular casework,” and concluded that “the validity of the fundamental assumptions of uniqueness and reproducibility of firearms-related toolmarks has not yet been fully demonstrated.” National Research Council, Ballistic Imaging, NATIONAL ACADEMIES PRESS, 81 (2008). In 2009, the NRC issued a report raising significant questions about the state of firearm and toolmark analysis:

A fundamental problem with toolmark and firearms analysis is the lack of a precisely defined process. As noted above, AFTE [Association of Firearm and Tool Mark Examiners] has adopted a theory of identification, but it does not provide a specific protocol . . . This AFTE document, which is the best guidance available for the field of toolmark identification, does not even consider, let alone address, questions regarding variability,

reliability, repeatability, or the number of correlations needed to achieve a given degree of confidence.

Committee on Identifying the Needs of the Forensic Sciences Community, Strengthening Forensic Science in the United States: A Path Forward, NATIONAL RESEARCH COUNCIL, 2009, at 155.

Since the issuance of these two reports, federal courts, which once routinely admitted firearm and toolmark identification evidence, have approached such testimony with more caution. Though no federal court has outright barred testimony from a qualified firearm or toolmark identification expert, many have discussed the handicaps of the field, observing that “[p]ro-prosecution bias might affect the reliability of firearms examinations because the ‘field consists entirely of individuals who work for law enforcement agencies,’” United States v. Green, 405 F.Supp.2d 104, 109 n.7 (D. Mass. 2005), and that the reliability of toolmark identification is questionable because it is not possible to calculate an absolute error rate. Monteiro, 407 F. Supp. 2d at 367. Many of these courts admitted the proffered testimony only under limiting instruction restricting the degree of certainty to which firearm and toolmark identification specialists may express their identifications. See United States v. Taylor, 663 F. Supp. 2d 1170 (D.N.M. 2009) (“reasonable degree of certainty in the firearms examination field”); Glynn, 578 F. Supp. 2d at 570 (“more likely than not”); United States v. Diaz, No. CR 05-00167 WHA, 2007 WL 485967, at *11-12 (N.D. Cal. Feb 12, 2007) (“reasonable degree of ballistic certainty”); see also Monteiro, 407 F. Supp. 2d at 355 (stating that appropriate standard is “reasonable degree of ballistic certainty”).

In 2016, PCAST issued a report identifying additional steps that should be taken “beyond those already taken . . . in the aftermath of the highly critical 2009 National Research

Council report on the state of the forensic sciences, that could help ensure the validity of forensic evidence used in the Nation’s legal system.” President’s Council of Advisors on Science and Technology, Report to the President Forensic Science in Criminal Cases: Ensuring Scientific Validity of Feature-Comparison Methods, EXECUTIVE OFFICE OF THE PRESIDENT, September 2016, at x. The report expressed several concerns, one of which was that AFTE’s “Theory of Identification as it Relates to Toolmarks,” which defines the criteria for making an identification, is circular:

The “theory” states that an examiner may conclude that two items have a common origin if their marks are in “sufficient agreement,” where “sufficient agreement” is defined as the examiner being convinced that the items are extremely unlikely to have a different origin.

Id. at 104. The report went on to conclude that, because firearms analysis is presently a subjective feature-comparison method, its foundational validity can only be established through multiple independent black box studies; unfortunately, many past studies and tests involved designs “that are not appropriate for assessing the scientific validity or estimating the reliability of the method as practiced.” Id. at 109–111. Comparison of past studies and those conducted more recently “suggests that, because of their design, many frequently cited studies seriously underestimate the false positive rate.” Id.

B.

At the Daubert hearing held on September 3 and 4, the court heard testimony from the proposed expert witnesses and from defendants’ expert. The court also heard argument from government’s counsel and all defendants’ counsel who wished to be heard. The government’s proposed experts acknowledged the inherent subjectivity of their work and the

impossibility of establishing reliable error rates for their conclusions, but testified to the extensive training, courses, and proficiency exams each had taken. They also testified that the Association of Firearm and Tool Mark Examiners (“AFTE”), of which each expert is a member, hosts seminars, publishes a journal, issues standards, procedures, and a glossary of terms, and maintains the National Integrated Ballistic Information Network (“NIBIN”) used by experts in making comparisons between recovered evidence and previously entered cartridge cases and weapons. Finally, they cited extensively the value of “validation studies,” the results of which are peer reviewed and often published.

The court is persuaded that all three witnesses proposed by the government are sufficiently qualified to be deemed experts in firearm identification. While Gibson, Etzelmler, and McVeigh did not receive degrees in metallurgy, engineering, or any other related course of study, Rule 702 permits experts to be qualified through experience and on-the-job training, rather than education. After viewing all three experts’ curriculum vitae and listening to both Gibson and McVeigh discuss the training each underwent after their formal schooling was concluded, the court believes that the experts possess the knowledge, training, experience, background, education, and skill necessary to offer testimony that will be helpful to the trier of fact. Fed. R. Evid. 702.

More troubling are the systematic problems with firearm identification as a discipline. As both Gibson and McVeigh explained at the hearing, the methodology of a firearm identification examination involves two major steps: (1) an objective evaluation of the existing class and subclass characteristics, if similar; and (2) a comparative microscopic evaluation of

individual characteristics. This second stage, while no doubt grounded in technical knowledge and skill, is unavoidably subjective. As observed by PCAST in an addendum to its 2016 report:

Forensic scientists rightly cite examiners' experience and judgment as important elements in their disciplines. PCAST has great respect for the value of examiners' experience and judgment. They are critical factors in ensuring that a scientific evaluation and a reliable method is practiced correctly. However, experience and judgment alone, no matter how great, can never establish validity or a degree of reliability of any particular method. Only empirical testing can do so.

President's Council of Advisors on Science and Technology, An Addendum to the PCAST Report on Forensic Science in Criminal Courts, at 3 (2017) (available at https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensics_addendum_finalv2.pdf).

Thus, defendants' argument is well-taken. Given the subjectivity of the field and the lack of any established methodology, error rate, or statistical foundation for firearm identification experts' conclusions, the testimony of the government's proposed witnesses will not be admitted in full. Neither, however, is the court persuaded that the above discussed fallibilities of firearm identification rob the entirety of the experts' testimony of value. Rule 702 and Daubert set requirements that extend broadly to permit expert testimony beyond that which is purely scientific and empirically-based. See Avondale Mills, Inc. v. Norfolk Southern Corp., No. CA 1:05-2817-MBS, 2007 WL 7724843, at *1 (D.S.C. Nov. 5, 2007) (“[T]he inquiry into an expert's reliability may focus instead upon personal knowledge or experience.”).

What is required is a measure of reliability in the proposed testimony and that such testimony be helpful to the jury. Fed. R. Evid. 702 (permitting the qualification of an expert if his/her “specialized knowledge will help the trier of fact to understand the evidence or to

determine a fact in issue” and if “the testimony is the product of reliable principles and methods.”). After reading the parties’ briefs, surveying the caselaw, studying the submitted treatises, and listening to the testimony and argument at the hearing, the court believes that this testimony, in large part, should be heard by the jurors. The experts’ work, using their technical knowledge, skill, and training to make microscopic observations of and comparisons between cartridge cases, would be helpful to the trier of fact.

The court is thus left with the question of what limitations to place on Gibson, Etzelmiller, and McVeigh’s testimony so that they may impart the substance of their work without misleading the jury. Of the recent opinions addressing the field of firearm and toolmark identification, many cited the reports issued in 2008 and 2009 by the NRC, but only one addressed the 2016 report issued by PCAST. Judge Paul Grimm, in United States v. Medley, 312 F. Supp. 3d 493 (D. Md. 2018), thoughtfully addressed similar challenges to this type of testimony (indeed, the expert at issue was McVeigh himself). Judge Grimm observed the difficulty a layman would have in ascertaining just how an expert like McVeigh concludes that “there were enough similarities to be consistent with similarities from [cartridge cases] from the same gun and greater than the number of similarities known to exist in [cartridge cases] from different guns,” and how little explanation is offered of this in reports that followed internal laboratory procedures. Medley, No. PWG 17-242 (D. Md. April 24, 2019), ECF No. 111, at 115.

Judge Grimm went on to hold, however, that there was no “reason why it would not be helpful to the jury for Mr. McVeigh to testify with his photographs and matching up the marks that he saw that were similar and pointing out the characteristics that were similar

between the firearm cartridges fired at the scene and what was test fired, subject to cross-examination.” Id. at 118. The Maryland district court also held that it was appropriate for an expert to “express an opinion that the marks . . . that were found on the crime scene cartridges are consistent with the marks found on the test fire.” Id. at 119. Judge Grimm tempered the admission of the examiner’s testimony with the limitation that McVeigh would not be permitted to express the opinion that these cartridges came from the same gun and would not be permitted to express any level of confidence in his conclusions. Id.

The court agrees with Judge Grimm and is persuaded that these limitations effectively balance the value of this testimony with its inherent subjectivity. The court thus rules that Gibson, Etzelmiller, and McVeigh are all sufficiently qualified to testify as expert toolmark examiners. Consistent with the photographs included in their expert reports produced in discovery, these toolmark examiners may compare the marks on various cartridge cases and identify marks on such cartridge cases they find to be similar and consistent with each other.

Concerns over the reliability of this testimony expressed in the NRC and PCAST reports and those reflected in a recent chorus of federal decisions lead the court to impose certain restrictions on the testimony of these toolmark examiners. The examiners may not testify that the marks indicate a “match,” or that cartridge cases were fired by the same firearm. They may not testify that cartridge cases have “signature” toolmarks identifying a single firearm. The court expressly precludes the examiners from testifying “to a level of practical impossibility” that cartridges could be identified to a single firearm. Given the absence of any empirical basis upon which to ascertain an error rate for these examiners’ testimony as to the

existence of similar toolmarks, the examiners will not be permitted to express any confidence level. See Medley Hearing Transcript, id. at 119.

After the Daubert hearing, the government filed an additional motion in limine seeking to broaden the scope of the toolmark examiners' testimony, including the ability to testify as to their belief in a "match," should the certainty of their conclusions be challenged on cross-examination at trial. ECF No. 713. Defendant Deshaun Trent responded to the government's motion and conceded that the government's position regarding defense counsel potentially "opening the door" on cross-examination to the certainty with which the examiners hold their opinions is reasonable. ECF No. 731, at 1. Trent agreed that a second Daubert hearing was in no way necessary, and expressed confusion as to why the government felt the defense might attempt to conduct one. Id. at 2.

Although the court cannot precisely predict the lines of cross-examination that will be advanced at trial, responses to cross-examination cannot serve to skirt the court's Daubert ruling. In other words, while the toolmark examiners may defend their opinions as to the existence of similar or consistent marks on certain cartridges, their witnesses may not testify as to a "match," that the cartridges bear the same "signature," that they were fired by the same gun, or words to that effect. Nor may they proffer a confidence level, unless defense counsel "opens the door" to this issue through questioning. As the court has exhaustively considered this issue, there is no need for an additional Daubert hearing.

C.

Finally, the court rules that Federal Rule of Criminal Procedure 16 has not been met. Rule 16 states that, at defense request, the prosecution must disclose "a written summary of

any testimony that the government intends to use under Rules 702, 703, or 705 of the Federal Rules of Evidence during its case-in-chief at trial.” Fed. R. Crim. Pro. 16(a)(1)(G). This written summary “must describe the witness’s opinions, the bases and reasons for those opinions, and the witness’s qualifications.” “The level of detail of this summary depends on the complexity of the expert testimony.” United States v. Caputo, 382 F. Supp. 2d 1045, 1049 (N.D. Ill. 2005) (citing United States v. Jackson, 51 F.3d 646, 651 (7th Cir. 1995)).

Review of the material produced in discovery makes clear that the government has not sufficiently explained the bases and reasons for the opinions expressed by the toolmark examiners. In Government’s Exhibit 2, for instance, in which Gibson records her analysis and conclusions regarding a cartridge case recovered in Danville, only a small parenthetical note, written in a cryptic shorthand that proves largely unintelligible for a layperson, explains why Gibson reached her conclusion. Gov. Ex. 2A, ECF No. 703, at 5. The cryptic nature of these notes does not satisfy the government’s discovery obligation under Rule 16(a)(1)(G). The court thus **DIRECTS** the government to supplement Gibson’s and Etzelmiller’s reports with a more sufficient narrative to provide the bases and reasons for the opinions reached by them as to the presence of similar or consistent toolmarks.

The court is less concerned about this issue as it pertains to McVeigh. During his testimony at the Daubert hearing, McVeigh provided sufficient details of his analysis and method, referencing the photos taken of the cartridge case provided to him. The court believes that McVeigh’s report, as supplemented by his testimony at the Daubert hearing, is sufficient to satisfy Rule 16(a)(1)(G) as regards McVeigh.

IV.

For the reasons stated above, the court **GRANTS in part and DENIES in part** defendants' motions to exclude firearm and toolmark identification testimony. ECF Nos. 570, 577, 581, & 612.

McVeigh, Gibson, and Etzelmler **MAY**:

- Provide testimony explaining their examination procedure and describe the comparison micrographs accompanying the reports produced in discovery;
- Describe any similar characteristics in the toolmarks observed on examined cartridge cases;
- Based on these observations, render an opinion as to whether toolmarks on certain cartridge cases bear marks consistent with each other.

McVeigh, Gibson, and Etzelmler **MAY NOT**:

- Opine that certain cartridge cases were fired by the same gun;
- Opine that a cartridge case is a "match" to other cartridge cases or firearms;
- Opine that toolmarks reflect a "signature" permitting the conclusion that certain cartridge cases may be traced to a single firearm; or
- Express confidence in their opinions to any specific level of certainty, including whether the examiners' observations exclude other firearms or cartridge cases "to a level of practical impossibility."

Additionally, the court **DIRECTS** the government to supplement the expert reports of Gibson and Etzelmler to provide a sufficient narrative summary of the bases and reasons for their opinions.

Finally, the court **GRANTS in part and DENIES in part** the government's motion in limine filed on September 6, 2019, the day after the Daubert hearing. ECF No. 713.

An appropriate Order will be entered.

Entered: 09/11/2019

A handwritten signature in black ink, appearing to read 'M. Urbanski', followed by a long horizontal line extending to the right.

Michael F. Urbanski
Chief United States District Judge